

**Commonwealth of Massachusetts
Sustainable Design Roundtable**

September 15, 2005
Meeting Notes

sponsored by the
*Executive Office of Environmental Affairs
Division of Capital Asset Management*

through a grant from the
Massachusetts Technology Collaborative

Introduction

The Massachusetts Sustainable Design Roundtable met on September 15, 2005 (see Appendix A for list of attendees). Eric Friedman outlined the agenda for the morning (Appendix B) and explained that preliminary results of the research conducted by consultants and interns for the Roundtable were being presented today.

The Roundtable would like to thank *Tsoi/Kobus & Associates* for sponsoring the breakfast before the session. This report contains the notes on the meeting. Links to the PowerPoint presentations and handouts used by the presenters at the September 15 meeting can be found on the website of the MA Sustainable Design Roundtable: www.mass.gov/envir/Sustainable/initiatives/initiatives_roundtable.htm

Massachusetts Story on Public Building Construction

- Sandra Grund, MA Sustainable Design (SD) Roundtable intern, investigated current and long-term state construction practices and plans by the various state agencies and authorities. She had three main questions to answer:
 1. What is the role of state agencies in construction?
 2. What is the scope of these agencies?
 3. What is the level of sustainable design implementation?
- Sandra gathered information from past SD Roundtable presentations and conducted interviews with officials at nine state agencies/authorities that are involved with vertical construction: Division of Capital Asset Management (DCAM), Department of Housing and Community Development (DHCD), Department of Education (DOE), Mass. School Building Authority (MSBA), Mass. State College Building Authority (MSCBA), University of Massachusetts Building Authority (UMB), Mass. Port Authority (Massport), Mass. Bay Transportation Authority (MBTA), and the Mass. Environmental Policy Act (MEPA) unit.
- The goal of Sandra's project was to gain an understanding of the scope and size of construction projects across agencies. By estimating total expenditures for state construction projects, one can get a sense of the overall impact of implementing green building practices at these agencies. Sandra found that at least \$1.73 billion is spent on state construction projects each year.
- Current status of sustainable design and construction in state projects:
 - State green buildings efforts are fragmented and most are voluntary initiatives. Frequently, if green building elements are included, their incorporation is driven by the public or individual staff desire.
 - Most agencies meet, but do not exceed, state standards and building codes. However, three leaders emerge: DCAM, DOE and Massport.
 - At DCAM, most green building efforts are voluntary. DCAM is launching a new initiative to get all buildings that it constructs to be LEED Silver. DOE is also proactive; its Green Schools Initiative is designed to promote energy efficiency and renewables and test the high performance design process. Massport is also making "best efforts" towards LEED certification and includes a green building consultant to assist a developer in design reviews.
 - Most agencies are interested in sustainable design, but until there is a drive from top-level influences, they will not pursue it internally.
- Leverage Points:
 - During the financing/funding application process, front-end cost considerations and requirements for green building aspects should be addressed.
 - Bidding/Award process: Request for Proposals could include mandatory green building expertise/knowledge.
 - Planning: Make green building decisions at initiation/early planning stages of the project. Require sustainable design and construction techniques during ground lease negotiations.
 - Design: Key scale and layout decisions can be made for energy efficiency and indoor air quality (IAQ) systems. Opportunities exist to require SD elements and to educate during design approvals, public consultation. At the points of project handoff, ensure that everyone knows what the goals are for green building. Make sure everyone is educated and on the same page.

- MEPA can recommend life cycle costing and sustainable design alternatives analyses in its Scope for an Environmental Impact Report (EIR).
- Construction: Ensure follow-through from planning process and educate contractors.
- Barriers:
 - Limited knowledge and expertise (internal and external).
 - Data gaps in sustainable design. Agencies perceive a lack of information on financials and statistics and how green buildings are managed in the long-term.
 - Separation of capital and operating budget does not capture efficiency benefits.
 - Lack of integrated project/design team.
 - Misconceptions of how green building conflicts with agency goals.
 - Timeline issues – learning curve for green building implementation.
 - Lack of directives from high-level leaders. Lack of mandatory standards gives way to many voluntary initiatives with little accountability and follow-through.
- Conclusions:
 - Host of agencies that have a wide range and significant influence over an array of vertical construction projects.
 - Agencies are interested and demonstrate a clear willingness and excitement about green building, but there is a major lack of direction from above.
 - Clear need for better data and tracking.
 - Variety of green building initiatives; however there is a lack of knowledge, guidance and support to solidify and standardize these initiatives.
 - Sandra will be providing a final report to the Roundtable on her research.

Metrics Working Group Research and Proposal

- The goal of the metrics working group (WG) is to recommend that the MA SD Roundtable adopt a green building rating system that is tied to Massachusetts, which has good current acceptance, but is not overly costly or burdensome.
- Jim Doolin, metrics WG co-chair, explained how the metrics working group wanted to compare and correlate provisions in the US Green Building Council Leadership in Energy and Environmental Design (LEED) green building rating system to what is imbedded in Massachusetts state policies.
- Alissa Bilfield, metrics WG intern, conducted this research. She analyzed the MA Collaborative for High Performance Schools (CHPS) criteria and LEED credit summary trends for certified buildings in MA. Alissa met with DOE to talk about MA CHPS and green building criteria for MA public schools.
- MA CHPS modifies the California CHPS criteria so that it works better for Massachusetts. For example, MA CHPS calls for specific energy efficiency measures to take the Massachusetts climate into account. MA population density is different than CA, so the definition of a “centrally located site” is different.
- A MA CHPS-LEED comparison chart was presented. A comparison of 14 MA LEED certified buildings showed which credit points buildings are consistently getting, as well as which points are difficult for MA buildings to achieve. This analysis will be helpful when trying to identify which points MA buildings should, as well as cannot, attain.
- Key MA policies that were analyzed include regulatory and non-regulatory provisions. Regulatory: MA State Building Code, MA IAQ standards. Non-regulatory: MA State Sustainability Plan, MA Solid Waste Master Plan, Office of Commonwealth Development (OCD) 10 SD Principles, MA Climate Protection Plan and MA Water Policy.
- Key MA policy priorities and LEED New Construction Version 2.2 were compared in terms of high/medium/low/potential correlations.

- Preliminary Recommendations:
 - LEED is not sufficient for MA purposes. A review of LEED in light of MA policies identified points that are not currently required, but that could be made into prerequisites for a MA version of LEED.
 - The metrics WG likes the idea of third party verification. Need to balance enthusiasm with reality.
 - WG will work towards a recommendation that a maintenance plan be attached to LEED.
 - MA CHPS should be used for MA schools. The WG grouped credits or points—e.g. one must get at least one of three credits on site sustainability.
 - Construction waste management—recycling up to 75% is easily achievable. Consider a Construction IAQ Management Plan.
 - Link controllability of systems lighting, daylighting and views. Require thermal comfort.
 - Require a LEED accredited professional to be part of the team.
 - The working group plans to take a “MA Plus” proposal for a green building rating system and correlate it to the previous chart of comparing LEED to MA CHPS.
- Questions/Comments
 - Q. How would this rating system get adopted?
 - A. The vision & leadership WG and the MA SD Roundtable, in general, need to address this issue.
 - Q. Will this rating system address using modeling as a baseline and require commissioning?
 - A. Don't have that kind of seamless program yet.
 - Q. Will the rating system consider scalability?
 - A. Did consider it, but didn't talk about it. Did consider administrative relief.
 - Q. Will the state be able to keep up with the changes that LEED constantly is making?
 - A. How this will be done needs to be determined.

Analysis of Other State Green Building Programs

Industrial Economics Incorporated (IEc) was contracted by the MA SD Roundtable to examine building programs and practices in other states and to conduct an in-depth analysis of four state programs. IEC identified policies, program activities and best practices that have advanced the construction of green buildings in other states. Based on their findings, IEC is developing recommendations for consideration by the SD Roundtable for a green building program for the Commonwealth of Massachusetts. John Weiss and Angela Vitulli of IEC presented their preliminary findings at this session.

- IEC considered successful programs that have been around since 2000 that could offer lessons. IEC selected California, Minnesota, New York and Pennsylvania for a more in-depth analysis:
 - CA: Progressive state, mature green building program, has an Executive Order requiring at least LEED Silver for state construction.
 - MN: A state not going specifically down the LEED pathway. Has its own set of design guidelines. The state pays specific attention to life cycle cost analysis.
 - NY: Chosen for, among other things, geographic proximity. Its Executive Order focuses on energy efficiency and savings. Green buildings become a tool to achieve energy objectives. The NY Executive Order does not create any requirements. NY uses the LEED rating system. State agencies using LEED must decide individually how to have their projects comply.
 - PA: Has an Executive Order that is all encompassing to make state government greener. PA has an inter-agency council that elevated the Executive Order's profile. Certain agencies take the lead and push sustainable construction policy, but building green is still not required.
- IEC found that no state has been practicing building sustainably for a long time. If you asked these states if they think they've figured it out, they would all say NO. They are still finding their way, even the most aggressive states. Reality is that the true best practices have probably not been discovered yet.
- In actuality, MA is really not that far behind these other states. One key difference is that green building has not been elevated in MA like it has in other states. There is no Executive Order, no higher order

mandating green building. They do not have a nucleus or catalyst to drive a sustainable building agenda.

IEc Recommendations:

- Adopt consistent use of the term “high performance buildings” (HPBs). Why? This type of construction is not only environmentally sound; it is intended to result in a better performing building across multiple levels than the average building.
- Draft an Executive Order focused on high performance buildings and fosters the development of “champions.” Be specific. Help the governor. Give him the language. Make the Executive Order specifically about HPBs. Develop and foster these agency and state specific champions. Create an inter-agency council. Identify a technically qualified professional to run the council. Identify someone within each agency to be a representative on the council.
- Provide funding for long-term support of local academic centers that can provide continuous research and technical services. Academic support has been and continues to be an important factor in CA, NY, MN and PA’s efforts to advance a HPB agenda.
- Make energy efficiency and energy cost savings a key component of any near-term strategy. Green building does not have to cost that much more on the capital cost side and green building saves a lot in the long run. Do not underestimate the need to make this economic argument extraordinarily compelling. Establishes a high level of credibility.
- Designate an official demonstration project (or two). Provide an actual building as an example. This shows that it can be done. It isn’t real for many people until they can actually see something physical. Elevate a project as a “profile” building.

Working Group Breakouts

The seven working groups met in their groups and discussed their preliminary recommendations. The groups began to modify their recommendations based on what they learned from research findings presented earlier in this session. A member recorded the recommendations on paper pads located on easels at each table. The following are a listing of the preliminary recommendations by working group.

DRAFT PRELIMINARY RECOMMENDATIONS OF WORKING GROUPS

1. Education and Training

- Identify training methods for each stakeholder group - Internal and External: High level state officials, implementers, end users, regulators (include local level participants)
- Sponsor a yearlong seminar series that provides in-depth training to state personnel.
- Identify existing training methods and materials for process and technology
- Establish relationships with educational institutions
- Utilize NEXUS resource center
- Coordinate training program needs / recommendations with other working groups

2 and 3. Capital / Operating Budget and Bidding & Awarding Process

- Provide state funding for incremental high performance building costs: grants and loans
- Provide state funding for LEED certification cost
- Develop system of analyzing life cycle costs
- Use high performance building expertise selection criterion for design and construction team (architect, engineer, construction manager, trade subcontractor)
- On larger projects, mandate the use of credentialed professional green building consultants.

- Develop a list of prequalified “preferred” consultants. Select consultants carefully. Look for LEED certification, experience and positive references. (CA finds that sometimes the larger firms do not have the experts needed.)
- Require expertise on team for integrated design whole building life cycle cost analysis
- Develop leasing standards and specifications that promote high performance building goals.
- Explore leasing HPBs instead of constructing them. (PA DEP has done this successfully.)
- Encourage state agencies to use these leasing specifications.
- Develop standard specifications for state-funded projects that incorporate mandatory high performance building requirements
- Expand pre-approved state vendors list to include green products and systems
- Most states surveyed had a problem with integrating capital and operating cost budgets. (NY and CA stress the importance of educating lawmakers on capital v. operating cost issues.)

- INCORPORATE INTO THE STATE’S CURRENT DESIGN AND CONSTRUCTION DEVELOPMENT PROCESS, SUSTAINABLE GOALS AND TARGETS AND PLANS FOR INTEGRATED ENGINEERING AND ARCHITECTURAL DESIGN AT THE EARLIEST STAGES OF CAPITAL OUTLAY.
 - Key to adoption of green buildings is the need to change the planning process in early programming and selection to include the goals and targets for sustainable design, construction, and operation practices.
 - Planning needs to occur at this stage for integrated engineering and architectural practices. Because an integrated design process is necessarily front loaded, i.e. it requires more planning and design time at early stages, planning for extra design time, meetings, and possibly charrettes is imperative. Extra time expended at the beginning of the process typically leads to time savings later in the construction document phase and during construction.
 - Both the above recommendations will lead to investment decisions that will be made around better building performance (30%-50% performance beyond the existing state building code), reduction in long term operating costs, high quality and greater value buildings and enhanced linkages to smart growth principles.

- INCORPORATE INTO THE STATE’S CURRENT DESIGN AND CONSTRUCTION DEVELOPMENT PROCESS, A LIFE CYCLE COSTING METHOD THAT BUILDS ON THE ADOPTION OF SUSTAINABLE BUILDING BENEFITS
 - Specific steps include adoption of definitive standards for undertaking integrated (whole building) cost-benefit investment analysis with a requirement that all investments with a seven year or faster simple payback be incorporated into the building project. This would include the need to promulgate new rules, identify funding sources and monitoring actual performance of buildings through a post occupancy evaluation. The state already calculates simple paybacks but lacks the tools for more sophisticated LCCA that takes into account replacement costs, maintenance costs, client comfort, health effects etc.
 - In addition, it is recommended that a working group be constituted to review the current state of the art with respect to understanding and evaluating the stream of costs and benefits resulting from building projects over such project’s anticipated life times and the length of their bond financing.

- DEVELOP TECHNICAL ASSISTANCE AND TRAINING PROGRAM FOR STATE PROJECT MANAGERS ASSIGNED TO GUIDE THE DESIGN AND COINSTRUCTION PROCESS FOR ALL STATE FACILITIES
 - DCAM Project Managers have the opportunity to promote more sustainable design and construction practices provided they are equipped with the resources and tools and training program to include sustainable building guidelines, and high performance energy and systems procurement specifications
 - Enable for a group LEED training class for all DCAM project managers
 - Establish an annual award program for the green state project team of the year

- GIVE RECOGNITION AND PRIORITY TO SUSTAINABLE DESIGN AND CONSTRUCTION EFFORTS BY ESTABLISHING REQUIREMENTS FOR LEED SILVER EITHER THROUGH LEGISLATION OR AN EXECUTIVE ORDER
 - Currently DCAM is using LEED in practice but not in policy. DCAM expects public building projects that are developed through its agency to be registered and certified through LEED. This voluntary effort is a good start, but allows non-sustainable projects to proceed. Laws requiring LEED Silver would require all state buildings to move toward sustainability.
 - The efforts of Mark Kalin, who created the new specifications for DCAM building projects, could be added to in order to incorporate LEED Silver requirements.
- REQUIRE ALL NEW AND MAJOR CAPITAL RENOVATIONS FOR PUBLIC SCHOOLS TO FOLLOW THE MA-CHPS GUIDELINES AND ACHIEVE GREEN SCHOOL CERTIFICATION.
 - The Mass. Tech. Collaborative, in partnership with the MA Dept of Education, has developed an excellent set of guidelines for design and construction of high performance green schools. The state should keep in place the extra 2% reimbursement points for achieving green school status to help early projects pay for incremental costs. Over time, the incentives could be removed (perhaps after 5 or 6 years). The extra reimbursement should be extended to all projects even if they are funded at 80% reimbursement percentage.

4. Vision and Leadership

- Draft Executive Order that mandates “green” standards for vertical public construction – “MA Plus”
- Use “bully pulpit” to “encourage fellow state agencies and municipalities to be part of the Executive Order so as to satisfy global commitments”
- Establish an inter-agency that manages Executive Order
 - designate a Chair/ Champion
 - funding and location of Chair?
- Research migration from Executive Order to Legislation (public and private)
 - quasi-independent state agencies
 - municipalities
- Governor develops vision or “Big Picture” (elevator speech blurb, mission statement, benchmarks) based on draft language from MA Sustainable Design Roundtable
- Develop “compelling arguments” – financial/economic, environmental, personal health, productivity
- Develop website – Directory of leaders/champions, resources, products, case studies; Executive Summary
- Develop synergies with other state initiatives
 - “smart growth”
 - resource management (principally water)
 - waste management (recycle/reuse)
 - climate protection
- Highlight and encourage state demonstration projects
 - primary schools (12)
 - CCCC
 - Chelmsford “EPA” (federal)
 - In planning and design?
- Reach out to academic resources
- Collaborate with MTC and utilities regarding grants
- Make energy modeling / life cycle / commissioning / main / mandatory via MEPA process

5. Incentives

- Provide public funding for educational programs for active Project Managers in public owner agencies and for skilled tradespersons working on public projects
- Endorse concept of academic center for post-evaluation studies
- Post-audit requirement, possibly withhold bonus for meeting targets (stick incentive)
- Fund demonstration project for fuel cell based cogeneration at university or hospital campus

- Expand utility-based incentives programs, for water conservation through water bills or added tax on equipment
- Separately fund a “green expert” separate from project team to ensure positive green outcome
- Operating budget incentives – if meet targets for reducing operating costs through green design, then agency can keep part of operational budget savings
- Develop a reporting requirement for building performance
- Owner-funded mandate to have Architect/Construction Manager lead SD charette at outset of project
- Owner-mandated requirement for contractor/builder/developer to demonstrate SD qualification to be eligible to join project team
- Time incentive – streamline permitting process for documented green projects
- Advocate for lower insurance costs for green buildings, justified by lower life-cycle costs
- Develop staff performance requirements/job descriptions that require green building (and fund training)
- Award (funding) points for incorporation of green building techniques (DHCD application/OCD Commonwealth Capital)
- Expand life of a land lease in exchange for developer incorporating green building
- Establish a State green building award program (by sectors, building type, etc?)
- Provide direct incentives such as capital incentives, grants to state and local government agencies, bonuses to design teams, and energy design assistance.
- Offer incentives to bridge the capital funding gap. Incentive program can be curtailed when the program becomes well established.
- MN, CA and NY are finding that energy design assistance helps to create a culture conducive to promoting HPB. NY used a public sector incentive (tax credit) to build a publicly funded project.

6. Sustainable Design Metrics

- Adopt mandatory LEED Plus standard (MA LEED Plus). States surveyed would include questioning whether to construct a new building or renovate (LEED does not appear to address this).
- Next Step: Review/comment on metric group initial proposal.
Recommendation: 4 hour mini-symposium to vet ideas
- Balance link to priorities and potential cost
Recommendation: review “point popularity” data and cost data
- Set project size and project type thresholds
Recommendation: Meet with state experts to determine project types/issues or redundancy with required LEED professional
- Consider (explore) separate state certification/approval for consultants. Enforce using carrot and stick methods
Recommendation: Require enhanced commissioning; in conjunction with maintenance plan requirement
- Require and assess data during energy modeling, commissioning and maintenance plan implementation
- How are we going to grapple with evolving LEED (within language of Executive Order)? Issue with tying to third party system.
- Promote MA representation on a LEED core committee to help guide LEED’s evolution.

7. Codes, Standards, Regulations

- Continually raise bar for energy code; explore feasibility of MA energy code to make sure it embraces innovative technologies and promotes energy efficiency
- Train code officials, inspectors, architects, engineers on code changes
- Consider independent entity to enforce energy code (being considered or about to be done in CA and WA)
- Investigate ways that MEPA can promote green building development (certificates, alternatives analysis)
- Require some level of “LEED plus” requirements when selling or leasing state land (Massport model)

Group Discussion on Working Groups' Preliminary Recommendations

- Make specific references to case study success stories for each of the recommendations.
- HPB refers to number crunching and accountants. Can get so focused on the numbers that you lose sight of what we are trying to do. IEc was thinking of the concept tactically to get people on-board. Difficult to get green building right economically. NY Mental Health presented an effective case for sustainable design and construction.
- How were the states that were studied by IEc organized to implement a green building Executive Order?
- A short, simple template for projects to fill out on life cycle costs was suggested. Tellus commented that it is extremely difficult to make LCA short and simple.
- How should a green building rating system be made mandatory? Should LEED certification be mandatory through USGBC?
- Do not want to minimize leasing recommendation. PA has model green leasing specifications.

END OF SESSION Comments

- Some of the recommendations actually preclude others.
- LCA should be used as a tool to make choices in the design phase and also for later evaluation in 5-10 years when assessing performance. Bridges capital and operating cost gap.
- There are existing regulations, both in MA and outside, that can help and also hurt. Review legal/regulatory project terms.
- Need to finalize name choice for buildings: high performance building? Need constant message. Need to standardize nomenclature. BG→ HP→ sustainable building. Will remain on the agenda.
- Who is the audience for this report? The governor? Making it specific will make the job easier. Gear report to audience. Will this become an Executive Order or go through the legislation? Need to keep that on the agenda.
- Aim high! Have a great group of professionals working on this. Don't limit vision. But don't push so high that it dies. Make it able to be implemented. If economic arguments, must make them compelling.
- Tailor recommendations to audience, but first need an audience.
- How far should the recommendations go?
- Include a draft Executive Order in report to governor?
- Include both short-term goals and also long-term goals.
- If this is going to be a joint report, is it going to be presented by the heads of EOEA and DCAM? If so, we need to educate and debrief them on the work completed so far and the direction the Roundtable is going in.
- Is there a price tag on the recommendations? E.g. will a new agency be created to manage this?
- Who is actually going to implement these recommendations? How? When? What's the cost? Must be specific and say x should organize a training program that will address what and will target this audience and will cost y.
- Need to give the reader a reference point of "this has been done in MN, this has been done in NY"—real life examples.
- *What* does it influence? Connect recommendation with desired outcome.
- It would be worthwhile if the staff thought about how these things will be integrated.
- The recommendations we actually make will depend on how much they cost, how difficult they will be to implement, and how probable their adoption may be.

Next Steps

- The next Roundtable meeting is December 8, 2005. Before then, the working groups will continue to elaborate on and specify their recommendations. They are to prepare up to six recommendations for consideration by the SD RT steering committee at their November meeting.
- Detailed recommendations are to address the following questions: Who will implement it? Who is the key audience? How, when, how much will it cost? Link to other states' experiences.

Appendix A

Attendee List for 9-15-05 Sustainable Design Roundtable	
Amann, David	NSTAR
Arons, Dan	Boston Society of Architects c/o Architerra
Barad, Amy	Department of Telecommunications and Energy
Bilfield, Alissa	Executive Office Of Environmental Affairs
Boylan, Barbara	Massachusetts Bay Transportation Authority
Brown, Paul S.	Drummey Rosane Anderson
Buckley, Joseph	Massachusetts School Building Authority
Burson, David S.	Massachusetts State College Building Authority, Boston
Chandler, Robert	Goody Clancy
Chaput, Patricia	Division of Capital Asset Management
Cullinane, Kim	Massachusetts Technology Collaborative
Doolin, James	Massachusetts Port Authority
Dougherty, Charlotte	Industrial Economics, Inc.
Eglinton, Aisling	EOEA, Massachusetts Environmental Policy Act unit
Fisher, Kenneth I.	Boston Society of Architects c/o Gensler Associates
Fleder, Anna	Tellus Institute
Foran, Matt	KeySpan Energy
Fourtounis, Peter	DiMella Shaffer
Friedman, Eric	Executive Office Of Environmental Affairs
Gately, Mary	Association of General Contractors of Massachusetts
Goldstein, James	Tellus Institute
Grund, Sandra	Executive Office Of Environmental Affairs
Hanchar, Mark	Turner Construction
Hancock, David	NAIOP c/o CBY/Childs Berman Tseckares Inc.
Love, Tim	UTILE design
Masland, Lawrence O.	Division of Energy Resources
McHugh, Eileen	Division of Energy Resources
Nikolayev, Dimitriy	Operational Services Division
Nolan, Marie Zack	Executive Office Of Environmental Affairs
Pearson, John	UMass Boston (student)
Pessoni, Kim	Skanska USA
Ranger, Andrea	Department of Education
Read, Nick	Office of the Inspector General
Scott, Christine	Goody Clancy
Settlemyre, Kevin	The Green Roundtable
Somers, Jennifer	Environmental Health & Engineering Services
Telegen, Joanne	Division of Capital Asset Management
Tennis, Abbey	Office for Commonwealth Development
Tsoi, Edward	Tsoi/Kobus and Associates
Vale, Quincy	Powerhouse Enterprises
Vitulli, Angela	Industrial Economics, Inc.
Warren, Mark	SEI Companies
Weiss, John	Industrial Economics, Inc.
Wernick, Laura	HMFH Architects

Appendix B

COMMONWEALTH OF MASSACHUSETTS SUSTAINABLE DESIGN ROUNDTABLE

AGENDA

100 Cambridge Street, 2nd floor
Conference Rooms B, C and D
September 15, 2005
8:00 a.m. to 12:30 p.m.

- 8:00 – 8:30 **I. Registration and Continental Breakfast**
- 8:30 – 8:40 **II. Welcoming Remarks**
- 8:40 – 9:10 **III. Massachusetts Story on Public Building Construction**
 A. Sandra Grund, Sustainable Design Roundtable intern
 B. Discussion
- 9:10 – 9:50 **IV. Metrics Working Group Research and Proposal**
 A. Alissa Bilfield, metrics working group intern
 B. Discussion
- 9:50 – 10:00 **V. BREAK**
- 10:00 – 10:45 **VI. Analysis of Other State Green Building Programs**
 A. John Weiss, Industrial Economics, Inc.
 B. Discussion
- 10:45 – 11:45 **VII. Working Group Breakouts** (see instruction sheet)
- 11:45 – 12:20 **VIII. Group Discussion of Recommendations**
- 12:20 – 12:30 **IX. Next Steps**